UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1997-0708

April 23, 1997

U.S. Army Corps of Engineers
ATTN:CENPP-CO-GP (Kim Larson)
P.O. Box 2946
Portland, OR 97208-2946

Re: Biological Opinion on O'Shea Dam (sediment excavation)

Dear Mr. Larson:

This responds to your December 23, 1996, letter requesting informal consultation on excavation of sediment from behind O'Shea Creek Dam, which you determined was "not likely to adversely affect" Umpqua River cutthroat trout (UR cutthroat trout). UR cutthroat trout was listed as endangered by the National Marine Fisheries Service (NMFS) on August 9, 1996. NMFS responded on January 30, 1997, that we did not concur with the "not likely to adversely affect" determination and that formal consultation would be necessary. Enclosed is the biological opinion for this proposed action. Questions regarding this letter should be directed to Lance Smith, of my staff, at (503) 231-2307.

Sincerely,

William Stelle, Jr.
Regional Administrator

cc: ODFW (Dave Harris)
USFWS (John Marshall)

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Endangered Species Act - Section 7 Consultation

BIOLOGICAL OPINION

Effects of O'Shea Dam Sediment Removal on Umpqua River Cutthroat Trout, Oregon Coast Coho Salmon, and Oregon Coast Steelhead, Douglas County, Oregon

Agency: U.S. Army Corps of Engineers

Consultation
Conducted By: National Marine Fisheries Service
Northwest Region

Date Issued: April 23, 1997

Refer to: OSB1997-0708

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I. Background

On August 9, 1996 (61 FR 41514), the National Marine Fisheries Service (NMFS) listed Umpqua River cutthroat trout (UR cutthroat trout)(*Onchorynchus clarki clarki*) as endangered under Section 4 of the Endangered Species Act (ESA), 16 U.S.C. 1531 et seq. This evolutionarily significant unit (ESU) includes anadromous, potamodromous, and resident cutthroat trout populations occurring below natural, impassable barriers in the Umpqua River Basin, Oregon. On July 25, 1995 (60 FR 38011), NMFS proposed to list the Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch)* ESU as threatened under the ESA. This ESU occupies river basins on the Oregon coast north of Cape Blanco, excluding rivers and streams that are tributaries of the Columbia River. On August 9, 1996 (61 FR 41541), NMFS proposed to list the Oregon Coast (OC) steelhead (*Oncorhynchus mykiss*) ESU as threatened under the ESA. The OC steelhead ESU occupies river basins on the Oregon coast north of Cape Blanco, excluding rivers and streams that are tributaries of the Columbia River.

On December 23, 1996, the Corps of Engineers (Corps) requested informal consultation on the permitting of sediment excavation from behind O'Shea Creek Dam by the City of Canyonville (Corps Permit # 96-1348). The National Marine Fisheries Service (NMFS) responded on January 30, 1997, that we did not concur with the "not likely to adversely affect" determination and that formal consultation would be necessary. The Public Notice was used as the Biological Assessment (BA) for this proposed project. Additional information on the status of anadromous salmonids and fish habitat in O'Shea Creek was provided by the Oregon Department of Fish and Wildlife (ODFW).

The applicant (City of Canyonville) proposes to excavate 5,000 cubic yards of accumulated sediment from behind O'Shea Dam. This 14-foot high concrete dam across O'Shea Creek provides the water supply for the City of Canyonville, and sediment has almost completely filled the reservoir area. O'Shea Creek is a tributary of the South Umpqua River and provides habitat for UR cutthroat trout above the dam, and for UR cutthroat trout, coho, and steelhead below the dam. The dam is at stream mile 2.3 on O'Shea Creek, does not have fish passage, and is probably a complete fish barrier.

The objective of this biological opinion is to determine whether the proposed removal of sediment from behind O'Shea Creek Dam is likely to jeopardize the continued existence of the endangered UR cutthroat trout, the proposed OC coho salmon, and the proposed OC steelhead. Since the UR cutthroat trout ESU includes all populations below natural impassable barriers, the UR cutthroat trout population above O'Shea Creek Dam is protected by the ESA, thus the effects of the proposed action on this population must be considered in this opinion. Because critical habitat has not been proposed or designated for any of these ESUs, this biological opinion does not address destruction or adverse modification of critical habitat.

II. Proposed Action

The applicant (City of Canyonville) proposes to excavate 5,000 cubic yards of material from behind O'Shea Creek Dam to restore the water storage capacity of the reservoir. Excavated sediment would be removed from the site by truck, and two temporary sediment ponds would be constructed immediately downstream of the dam during the sediment excavation period to control downstream turbidity. All instream work would occur during the ODFW work window (July 1 - September 15).

III. Biological Information and Critical Habitat

The listing status and biological information for UR cutthroat trout, OC coho, and OC steelhead are described in Attachment 1. While critical habitat has not been proposed or designated, the attachment describes potential critical habitat elements for these ESUs.

IV. Evaluating Proposed Actions

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA, 16 U.S.C. 1536(a)(2), and implementing regulations at 50 CFR Part 402. Attachment 2 describes how NMFS applies the ESA jeopardy standards to consultations on Federal actions. Critical habitat has not been proposed or designated for any of the listed/proposed ESUs covered by this opinion.

As described in Attachment 2, the first steps in applying the ESA jeopardy standards are to define the biological requirements of the ESU and to describe the listed species' current status as reflected by the environmental baseline. In the next steps, NMFS's jeopardy analysis considers how proposed actions are expected to directly and indirectly affect specific environmental factors that define properly functioning aquatic habitat essential for the survival and recovery of the species. This analysis is set within the dual context of the species' biological requirements and the existing conditions under the environmental baseline (defined in Attachment 1). The analysis takes into consideration an overall picture of the beneficial and detrimental activities taking place within the action area. If the cumulative actions are found to jeopardize the listed species then NMFS must identify any reasonable and prudent alternatives to the proposed action.

A. Biological Requirements

For this consultation, NMFS finds that the biological requirements of the listed/proposed ESUs are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of the ESUs. Individual environmental factors include water quality, habitat access, physical habitat elements, channel condition, and hydrology. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are also necessary for the survival and recovery of the listed/proposed ESUs. This information is summarized in Attachment 1.

B. Environmental Baseline

Current range-wide status of ESUs under environmental baseline. NMFS described the current population status of the Umpqua River cutthroat trout ESU in its status review (Johnson et al., 1994) and in the final rule (August 9, 1996, 61 FR 41514). The fish counts at Winchester Dam on the North Fork Umpqua River provide the best quantitative source of information on cutthroat trout abundance in the Umpqua River Basin (see Attachment 1, Table 1). However, for the purposes of this biological opinion, it is difficult to determine the population status for the environmental baseline assessment of the entire ESU based only on Winchester Dam fish counts because this dam is located on the North Umpqua River but the ESU occupies the entire Umpqua Basin. In the absence of adequate population data, habitat condition provides a means of evaluating the status of Umpqua River cutthroat trout for the environmental baseline assessment, as explained in Attachment 1.

The range-wide status of OC coho salmon was determined during NMFS' coastal coho salmon status review (Weitcamp et al. 1995). Busby et al. (1996) determined the range-wide status of OC steelhead. The recent range-wide status of these species is summarized in Attachment 1. In the absence of adequate population data, habitat condition provides a means of evaluating the status of these species for the environmental baseline assessment.

Action Area. The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." (50 CFR 402.02). The action area for this project includes O'Shea Creek Dam Reservoir, O'Shea Creek downstream of the reservoir, and all sections of the O'Shea Creek watershed what would be affected by the project such as the access road and the work area.

Current status of proposed/listed ESUs under environmental baseline within the action area. Little information is available on the current status of UR cutthroat trout, coho, and steelhead in O'Shea Creek. Information from ODFW indicates that just over five miles of the stream is inhabited by UR cutthroat trout, but the dam blocks passage at stream mile 2.3 so only the lower section is accessible to anadromous UR cutthroat trout, coho, and steelhead. The reservoir behind O'Shea Creek Dam is inhabited by UR cutthroat trout. The reach of the creek below the dam is heavily impacted by agriculture and grazing, and consists of a simplified channel that provides fair habitat for these three species. The reach of the creek above the dam has some good spawning habitat but little large woody debris and few pools, and has been impacted by timber harvest and road building. The O'Shea Creek watershed is checkerboard ownership of Roseburg BLM District and private land.

Based on the best information available on the current status of the three proposed/listed ESUs rangewide (Attachment 1) and within the action area, the information available regarding population status, population trends, and genetics (see Attachment 2), and the poor environmental baseline conditions within the action area, NMFS concludes that not all of the biological requirements of the proposed and listed ESUs within the action area are currently being met under the environmental

baseline. Thus, actions that do not retard attainment of properly functioning aquatic conditions when added to the environmental baseline would not jeopardize the continued existence of anadromous salmonids. I.e., actions that permanently degrade anadromous salmonid habitat would jeopardize the continued existence of these species.

V. Analysis of Effects

A. Effects of Proposed Actions. The effects determinations in this opinion were made using a method for evaluating current aquatic conditions (the environmental baseline) and predicting effects of actions on them. This process is described in the document "Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS 1996). This assessment method was designed for the purpose of providing adequate information in a tabular form for NMFS to determine the effects of actions subject to consultation. The effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on each of approximately 17 aquatic habitat factors in the project area, as described in the "checklist for documenting environmental baseline and effects of the action" (checklist) completed for each action.

The results of the completed checklist for the proposed action provides a basis for determining the overall effects on the environmental baseline in the action area. The action covered in this opinion was shown to maintain the environmental factors over the long-term (more than one year) that could potentially be affected by the proposed project (see Table 1 below). Sediment inputs to O'Shea Creek are likely to be increased by the project due to inwater work, but these should be limited to the short-term. With implementation of measures to reduce sediment inputs such as the use of settling ponds and off-site sediment disposal, it is expected that the existing environmental baseline would be maintained over the long-term. Nevertheless, short-lived adverse effects such as temporary increases in sediment have the potential to result in incidental take. In addition to sediment impacts, the proposed project may result in direct incidental take of UR cutthroat trout if fish are present in the reservoir during when the work is being carried out. The proposed project will require the operation of heavy equipment within the reservoir area and removal of the current reservoir substrate, which could harm, harass, or otherwise incidentally take UR cutthroat trout in the area at that time.

Table 1. Summary checklist of environmental baseline and effects of sediment removal at O'Shea Creek Dam on relevant indicators (short-term refers to one year or less).

	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
PATHWAYS:						
INDICATORS	Properly[1] Functioning	At Risk[1]	Not Propr.[1] Functioning	Restore[1]	Maintain[1]	Degrade[1]
Water Quality:						
Temperature		X			X	
Sediment		X			X long-term	X short-term
Chem. Contamination	X				X	
Habitat Access:						
Physical Barriers			X		X	
Habitat Elements:						
Substrate		X			X	
Large Woody Debris		X			X	
Pool Frequency		X			X	
Pool Quality		X			X	
Off-channel Habitat		X			X	
Refugia		X			X	
Channel Condition:						
Width/Depth Ratio		X			X	
Streambank Cond.		X			X	
Floodplain Connectivity		X			X	
Flow/Hydrology:						
Peak/Base Flows		X			X	
Drainage Network Increase		X			X	
Watershed Conditions:						
Road Dens. & Loc.			X		X	
Disturbance History			X		X	
Riparian Reserves		X			X	

[1] These three categories of function ("properly functioning", "at risk", and "not properly functioning") and the three effects ("restore", "maintain", and "degrade") are defined for each indicator in NMFS (1996).

B. Cumulative Effects. "Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 50 CFR 402.02. The action area for this project includes O'Shea Creek Dam Reservoir, O'Shea Creek downstream of the reservoir, and all sections of the O'Shea Creek watershed what would be affected by the project such as the access road and the work area. A substantial portion of spawning and rearing habitat within the action area for UR cutthroat trout, coho, and steelhead is on U.S. Department of the Interior, Bureau of Land Management (BLM) land. Gradual improvements in habitat conditions for UR cutthroat trout, coho, and steelhead are expected on these Federal lands as a result of Northwest Forest Plan implementation, as guided by ESA consultation.

Historically, agriculture, livestock grazing, forestry and other activities on non-federal land in the Umpqua River Basin have contributed substantially to temperature and sediment problems in the Umpqua River Basin (USDI 1995a,b,c,; USDA 1995). This is true of the O'Shea Creek watershed due to a high percentage of non-federal land, high road densities, and low elevation (no snowpack). Conditions on and activities within non-Federal riparian areas along stream reaches downstream of the BLM land presently exert a greater influence on river temperatures and probably contribute more sediment to the habitat of UR cutthroat trout, coho, and steelhead in the Elk Creek subbasin than the BLM land.

Significant improvement in reproductive success of UR cutthroat trout, coho, and steelhead outside of BLM land is unlikely without changes in agricultural, forestry, and other practices occurring within non-Federal riparian areas in the Elk Creek subbasin. NMFS is not aware of any future new (or changes to existing) State and private activities within the action area that would cause greater impacts to listed species than presently occurs. In fact, now that UR cutthroat trout is listed as endangered, NMFS assumes that non-Federal land owners will take steps to curtail or avoid land management practices that would result in the take of this species. For actions on non-Federal lands which the landowner or administering non-Federal agency believes are likely to result in adverse effects to Umpqua River cutthroat trout or their habitat, the landowner or agency should work with NMFS to obtain the appropriate ESA section 10 incidental take permit, which requires submission of a habitat conservation plan. If a take permit is requested, NMFS would likely seek project modifications to avoid or minimize adverse effects and taking of listed fish. Until improvements in non-Federal land management practices are actually implemented, NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

VI. Conclusion

The sediment removal from behind O'Shea Creek dam considered in this Biological Opinion, as described in the BA, is not likely to jeopardize the continued existence of UR cutthroat trout, OC coho, or OC steelhead. NMFS used the best available scientific and commercial data to apply its jeopardy analysis (described in Attachment 2), when analyzing the effects of the proposed actions on the biological requirements of the species relative to the environmental baseline (described in Attachment 1) , together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse degradation of anadromous salmonid habitat due to sediment impacts, and possibly cause direct incidental take of UR cutthroat trout during inwater work. However, the proposed action is not expected to result in further degradation of aquatic habitat over the long term or result in substantial incidental take. Thus, the effects of the proposed action would not reduce prespawning survival, egg-to-smolt survival, or upstream/downstream migration survival rates to a level that would appreciably diminish the likelihood of survival and recovery of UR cutthroat trout, OC & SONC coho, and LC, OC & KMP steelhead.

VII. Conservation Recommendations

In general, the proposed sediment removal from behind O'Shea Creek Dam should maintain habitat conditions for listed or potentially listed salmonids. However, the dam is a complete fish barrier and prevents access to relatively high quality upstream habitat to anadromous UR cutthroat trout, coho, and steelhead. Thus, we have the following conservation recommendation for this proposed project:

1. Install fish passage at O'Shea Creek Dam that would provide for upstream and downstream UR cutthroat trout, coho, and steelhead passage.

VIII. Reinitiation of Consultation

Consultation must be reinitiated if: the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect the listed species in a way not previously considered; the action is modified in a way that causes an effect on the listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 C.F.R. 402.16).

Based on the information in the BAs, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Biological Opinion. To ensure protection for a species assigned an unquantifiable level of take, reinitiation of consultation is required: (1) if any action is modified in a way that causes an effect on the listed species that was not previously considered in the BAs and this Biological Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 C.F.R. 402.16).

IX. References

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion in addition to the BAs and additional information requested by NMFS and provided by the six administrative units.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. 1996. Status review of west coast steelhead from Washington, Idaho, Oregon, and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFSC-27, 261 p.

Johnson, O.W., and 5 others. 1994. Status Review for Oregon's Umpqua River sea-run cutthroat trout. U.S. Dept. Commerce, NOAA Tech. Memo, NOAA-NWFSC-15, 122 p.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

USDA (U.S. Dept. of Agriculture, Forest Service) 1995. Little River Watershed Analysis, Umpqua National Forest. Version 1.1 plus appendices.

USDI (U.S. Dept. of the Interior, Bureau of Land Management). 1995a. Paradise Creek Watershed Analysis, Coos Bay BLM District.

USDI (U.S. Dept. of the Interior, Bureau of Land Management). 1995b. Canton Creek Watershed Analysis, Roseburg BLM District.

USDI (U.S. Dept. of the Interior, Bureau of Land Management). 1995c. West Fork Cow Creek Watershed Analysis, Medford BLM District.

Weitcamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech Memo. NMFS-NWFSC-24, 258 p.

X. Incidental Take Statement

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Biological Opinion (removal of sediment from behind O'Shea Creek Dam) has more than a negligible likelihood of resulting in incidental take of UR cutthroat trout, OC coho, and OC steelhead because of detrimental effects on suspended sediment levels and the potential for direct incidental take during inwater work. Effects of management actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Biological Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BAs, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Biological Opinion.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize the take of UR cutthroat trout, OC & SONC coho, and LC, OC & KMP steelhead.

1. The Corps shall minimize degradation of aquatic habitat in O'Shea Creek due to sediment removal from behind O'Shea Creek Dam.

2. The Corps shall minimize the potential for direct incidental take during inwater work due to sediment removal from behind O'Shea Creek Dam.

C. Terms and Conditions

1.a. Settling basins shall be used to remove sediments from waste water to prevent dispersal of sediments into waterways. Settling basins shall be located outside the stream channel, and be maintained in good working condition.

1.b. Settling basins shall be designed to maintain sufficient depth of standing water at all times to allow proper settling.

1.c. Existing perennial riparian vegetation shall not be removed.

1.d. Dredging shall not create stagnant water conditions, sumps, or fish entrapments.

1.e. Dredged material shall be moved immediately to permitted disposal sites, and return of sediments and waste water shall be minimized.

1.f. Dikes, berms, or edges surrounding disposal sites shall be constructed, sloped, and vegetated to prevent erosion and dispersal of sediments into waterways and wetlands.

2. All inwater work shall occur between July 1 and September 15.